

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: NEMAZIE et al.

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For: Serial Advanced Technology Attachment
(SATA) Switch

Art Unit: 2181

Examiner: Lee, Chun Kaun

Atty. Docket: Siliconstor-0001US

Amended Appeal Brief Under 37 CFR § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
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Sir:

In response to the Notification of Non-Compliant Appeal Brief mailed March 21, 2008, Appellants submit this amended appeal brief under 37 CFR § 41.37.

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III. STATUS OF CLAIMS

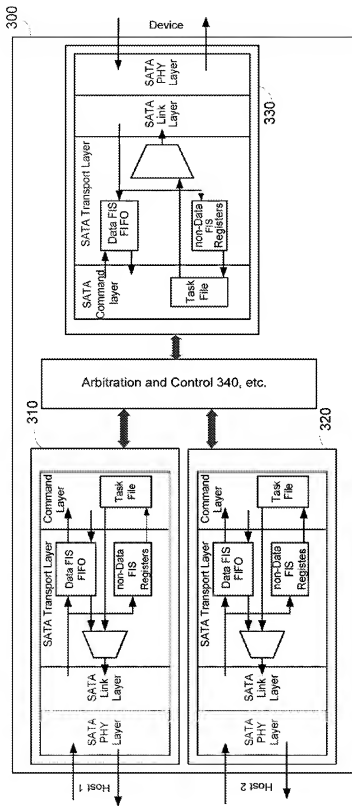
A. Pending Claims

Claim 1 has been rejected and is the subject of this appeal. Claim 2 has been canceled and is not the subject of this appeal. Claim 3 has been canceled and is not the subject of this appeal. Claims 4-7 have been rejected and are the subjects of this appeal. Claim 8 has been canceled and is not the subject of this appeal. Claims 9-21 have been rejected and are the subjects of this appeal. Claims 21 and 22 have been canceled and are not the subjects of this appeal. Claims 24-26 have been rejected and are the subjects of this appeal. Claim 27 has been canceled and is not the subject of this appeal. Claims 28-43 have been rejected and are the subjects of this appeal. Of these, claims 1, 20, 33 are independent claims.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter relates to enabling multiple hosts to concurrently access a single storage device using industry-standard Serial Advanced Technology Attachment (SATA) interface protocol.

By way of convenience, an exemplary embodiment of the present invention is illustrated in the figure below, which is a condensed representation of Fig. 6 from the patent application.



In general, the switch 300 includes SATA ports 310 and 320, which are coupled to hosts 1 and 2, respectively. The switch 300 further includes SATA port 330, which is coupled to a Device. The Device is generally a storage device. The features of the various embodiments of the present invention allow the hosts concurrent access to the Device. Concurrency, as used herein, indicates acceptance of commands, from either of two or more hosts, at any given time including when the Device (such as a storage unit) is not in an idle state.

Turning now to the claimed subject matter, claim 1 is directed towards “a switch coupled between a plurality of host units.” Claim 1 recites in part “a first serial advanced technology attachment (ATA) port including a first host task file, coupled to a first host unit, the first host task file responsive to commands sent by the first host unit, to the device.” Claim 1 further recites “a second serial ATA port, coupled to a second host unit including a second host task file, the second host task file responsive to commands sent by the second host unit, to the device.” Claim 1 further includes “a third serial ATA port, coupled to a device, for causing access, by the first or second host units, to the device.” Lastly, claim 1 includes “an arbitration and control circuit, coupled to the first, second and third ports, for selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state.”

Thus, various embodiments of the present invention innovatively teach using a host task file in each SATA port. It is noted that the first and second task files are located before the arbitration and control circuit therefore allowing concurrent acceptance of commands from the hosts.

Claim 4 further defines the serial ATA port in claim 1 to include “a device task file.”

Claim 5 further defines the ports in claim 1. Thus, claim 5 recites “a switch as recited in claim 1 wherein said first, second and third ports are level 4 ports.” (or ports conforming to layer 4 of the SATA protocol.)

Claim 6 further defines the switch as recited in claim 1. Thus, claim 6 recites “wherein said device is a storage unit.”

Claim 7 still further defines where the switch in claim 1 is employed. Thus, Claim 7 recites “wherein said switch is employed in an enterprise system.”

Claim 9 further defines the switch in claim 1. Thus, claim 9 recites “wherein information, in the form of data, commands or setup, is transferred from the device to the first or second host units through the switch and the information is modified by the switch prior to being received by the first or second host units such that modified information rather than the information is received by the first or second host units.”

Claim 10 further defines the switch in claim 9, “wherein the information is referred to as ‘identify drive response.’”

Claim 11 further defines the switch in claim 9, “wherein the information is referred to as ‘Tag.’”

Claim 12 further defines the switch in claim 1, “wherein information, in the form of data, commands or setup, is transferred from the first or second host units to the device through the switch and the information is modified by the switch prior to being received by the device such that modified information rather than the information is received by the device.”

Claim 13 further defines the switch in claim 12. Thus, claim 13 recites “wherein the information is referred to as ‘Tag’.”

Claim 14 further defines the switch in claim 12. Thus, claim 14 recites “wherein the arbitration and control circuit include a Tag/Sactive Mapping Circuit for mapping a host tag to a device tag and inverse mapping for identifying a host.”

Claim 15 further defines the switch in claim 1, “wherein either the first or the second host sends a legacy queue command queued by the device.”

Claim 16 further defines the switch in claim 1. Thus, claim 16 recites “wherein either the first or the second host sends a native queue command for execution thereof by the device.”

Claim 17 further defines the switch in claim 16. Thus, claim 17 recites “wherein the Tag in the native queue command is modified prior to sending to the Device to avoid using the same Tag for both hosts and not to exceed the maximum allowed Tag value.”

Claim 18 further defines the switch in claim 17 wherein “the Tag received in a FIS from the Device is modified to its original value prior to sending the same to the Host.”

Claim 19 further defines the switch in claim 1. Thus, claim 19 recites “wherein the first, second and third ports are level 3 serial ATA ports and a Data FIS FIFO and an associated FIFO Control are coupled to the first, second and third ports and are located externally thereto.”

Claim 20 is directed towards a switch comprising “a first serial advanced technology attachment (ATA) port including a first host task file for connection to a first host unit, the first host task file responsive to commands sent by the first host unit.” Claim 20 further recites “a second serial ATA port including a second host task file for connection to a second host unit, the second host task file responsive to commands sent by the second host unit.”

Claim 20 further recites “a third serial ATA port for connection to a device; and an arbitration and control circuit, coupled to the first, second, and third ports, for selecting either the first host unit or the second host unit to concurrently access the device, through the switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state.”

Claim 21 further defines the switch in claim 20. Thus claim 21 recites “wherein the switch is a serial ATA switch.”

Claim 24 further defines the switch in claim 21 “wherein said third serial ATA port includes a device task file.”

Claim 25 further defines the switch in claim 20 “wherein said device is a storage unit.”

Claim 26 further defines where the switch in claim 20 is employed. Thus, claim 26 recites “wherein said switch is employed in an enterprise system.”

Claim 28 further defines the switch in claim 20. Thus, claim 28 recites “wherein information, in the form of data, commands or setup, is transferred from the device to the first or second host units through the switch and the information is modified by the switch prior to being received by the first or second host units such that modified information rather than the information is received by the first or second host units.”

Claim 29 further defines the switch in claim 28 “wherein the information is referred to as ‘TAG.’

Claim 30 further defines the switch in claim 28 “wherein the information is referred to as ‘identity drive response.’”

Claim 31 further defines the switch in claim 20. Thus, claim 31 recites “wherein information, in the form of data, commands or setup, is transferred from the first or second host units to the device through the switch and the information is modified by the switch prior to being received by the device such that modified information rather than the information is received by the device.”

Claim 32 further defines the switch in claim 31 “wherein the information is referred to as ‘Tag.’”

Claim 33 is directed towards a method of employing a switch coupled between a plurality of host nits and a device for communicating there between. Claim 33 recites the method as comprising “coupling a first serial advanced technology attachment (ATA) port to a first host unit;

coupling a second serial ATA port to a second host unit;

coupling a third serial ATA port to a device;

receiving commands through a first host task file;

receiving commands through a second host task file;

and selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, through the first and second host task files, from either of the first or second host units, at any given time, including when the device is not in an idle state.”

Claim 34 further defines the method of employing a switch in claim 33. Thus claim 34 recites “further including the steps of transferring information, in the form of data, commands or setup, from the device to the first or second host units through the switch and modifying the information prior to the information being received by the first or second host units such that modified information rather than the information is received by the first or second host units.”

Claim 35 further defines the method of employing a switch in claim 34 “wherein the information is referred to as ‘identity drive response.’”

Claim 36 further defines the method of employing a switch in claim 34 “wherein the information is referred to as ‘Tag.’”

Claim 37 further defines the method of employing a switch in claim 34. Thus, claim 37 recites “further including the steps of transferring information, in the form of data, commands or setup, from the first or second host units to the device through the switch and modifying the information by the switch prior to being received by the device such that modified information rather than the information is received by the device.”

Claim 38 further defines the method of employing a switch in claim 37 “wherein the information is referred to as ‘Tag.’”

Claim 39 further defines the method of employing a switch in claim 37 “wherein mapping a host tag to a device tag and inverse mapping for identifying a host.”

Claim 40 further defines a method of employing a switch in claim 34 to further include “the step of sending a legacy queue command queued.”

Claim 41 further defines a method of employing a switch in claim 34 to further include “the step of sending a native queue command for execution thereof by the device.”

Claim 42 further defines a method of employing a switch in claim 41 “wherein the Tag in the native queue command prior to sending to the Device to avoid using the same Tag for both hosts.”

Claim 43 further defines a method of employing a switch in claim 42 “wherein modifying the Tag received in the FIS from the Device prior to sending the same to the Host.”

Mapping of Independent Claims

The independent claims are listed below, and mapped to specifications by page and line number and to the drawings.

Claim 1

Claim 1: A switch coupled between a plurality of host units and a device for communicating there between and comprising:

- a) a first serial advanced technology attachment (ATA) port including a first host task file, coupled to a first host unit, the first host task file responsive to commands sent by the first host unit, to the device;
- b) a second serial ATA port, coupled to a second host unit including a second host task file, the second host task file responsive to commands sent by the second host unit, to the device;
- c) a third serial ATA port, coupled to a device, for causing access, by the first or second host units, to the device; and
- d) an arbitration and control circuit, coupled to the first, second and third ports, for selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state.

Subject Matter	Reference to Figs	Reference to Specs
A switch	Fig. 5 Block 200 Fig. 6 Block 300 Fig. 10a Block 500 Fig. 10b Block 500	Page 13, line 7-line 12 Page 15, lines 28-32 Page 35, lines 19-25
coupled between a plurality of host units	Fig. 3a items 11 and 12 Fig. 3b items 11 and 12	
and a device for communicating there between and comprising	Fig. 3a item 16 Fig. 3b item 66	Page 1, lines 20 - 21

a first serial advanced technology attachment (ATA) port	Fig. 5 Block 210 Fig. 6 Blocks 310 Fig. 9 Block 410 Fig. 10a Block 510 Fig. 10b Block 510	Page 13, line 16-Page 14, line 14 Page 15, line 29-Page 16, line 3 Page 27, lines 1-5 Page 34, line 18-Page 35, line 19
including a first host task file coupled to a first host unit,	Fig. 6, block labeled "Task File" inside block 310 Fig. 9, block 413a Fig. 10a, block 513a Fig. 10b, block labeled "FIS Holding Reg" inside block 510	Page 17, lines 19-20 Page 34, line 32 – Page 35, line 1 Page 45, lines 5-6 Page 45, lines 11- 13
a first host task file responsive to commands sent by the first host unit, to the device;	Fig. 6, block labeled "Task File" inside block 310 Fig. 9, block 413a Fig. 10a, block 513a Fig. 10b, block labeled "FIS Holding Reg" inside block 510	Page 17, lines 19-20 Page 34, line 32 – Page 35, line 1 Page 45, lines 5-6 Page 45, lines 11- 13
a second serial ATA port, coupled to a second host unit	Fig. 5 Block 220 Fig. 6 Block 320 Fig. 9 Block 410 Fig. 10a Block 520 Fig. 10b Block 520 Fig. 11a Block 320 Fig. 11b Block 520	Page 13, line 26-Page 14, line 3 Page 15, line 30-Page 16, line 7 Page 27, lines 6-10 Page 34, line 18-Page 35, line 19

including a second host task file,	Fig. 6, block labeled “Task File” inside block 320 Fig. 9, block 413a Fig. 10a, block 523a Fig. 10b, block labeled “FIS Holding Reg” inside block 520	Page 17, lines 19-20 Page 34, line 32 – Page 35, line 1 Page 45, lines 5-6 Page 45, lines 11- 13
the second host task file responsive to commands sent by the second host unit, to the device; coupled to a device,	Fig. 6, block labeled “Task File” inside block 320 Fig. 9, block 413a Fig. 10a, block 523a Fig. 10b, block labeled “FIS Holding Reg” inside block 520	Page 17, lines 19-20 Page 34, line 32 – Page 35, line 1 Page 45, lines 5-6 Page 45, lines 11- 13
for causing access, by the first or second host units, to the device; and	Fig. 3a item 16 Fig. 3b item 66	Page 1, lines 20 - 21
an arbitration and control circuit, coupled to the first, second and third ports, for selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state.	Fig. 10a(ii) Fig. 10b(ii) Fig. 11a(ii) Fig. 11b(i)	Page 16, lines 17-20 Page 16, line 25-Page 17, line 4 Page 17, line 18-Page 18, line 2 Page 18, lines 17-20 Page 24, lines 1-5 Page 24, lines 7-12 Page 26, lines 22-23 Page 37, line 25-Page 38, line 9 Page 38, lines 18-20

		Page 38, lines 21-25 Page 38, lines 27-31 Page 39, lines 2-7
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Claim 20

Claim 20: A switch comprising:

- a) a first serial advanced technology attachment (ATA) port including a first host task file for connection to a first host unit, the first host task file responsive to commands sent by the first host unit;
- b) a second serial ATA port including a second host task file for connection to a second host unit, the second host task file responsive to commands sent by the second host unit;
- c) a third serial ATA port for connection to a device; and

an arbitration and control circuit, coupled to the first, second and third ports, for selecting either the first host unit or the second host unit to concurrently access the device, through the switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state

Subject Matter	Reference to Figs	Reference to Specs
A switch comprising:	Fig. 5 Block 200 Fig. 6 Block 300 Fig. 10a Block 500 Fig. 10b Block 500	Page 13, line 7-line 12 Page 15, lines 28-32 Page 35, lines 19-25
a first serial advanced technology attachment (ATA) port	Fig. 5 Block 210 Fig. 6 Blocks 310 Fig. 9 Block 410	Page 13, line 16-Page 14, line 14 Page 15, line 29-Page 16, line 3

	Fig. 10a Block 510 Fig. 10b Block 510	Page 27, lines 1-5 Page 34, line 18-Page 35, line 19
including a first host task file for connection to a first host unit;	Fig. 6, block labeled "Task File" inside block 310 Fig. 9, block 413a Fig. 10a, block 513a Fig. 10b, block labeled "FIS Holding Reg" inside block 510	Page 17, lines 19-20 Page 34, line 32 – Page 35, line 1 Page 45, lines 5-6 Page 45, lines 11- 13
a second serial ATA port	Fig. 5 Block 220 Fig. 6 Block 320 Fig. 9 Block 410 Fig. 10a Block 520 Fig. 10b Block 520 Fig. 11a Block 320 Fig. 11b Block 520	Page 13, line 26-Page 14, line 3 Page 15, line 30-Page 16, line 7 Page 27, lines 6-10 Page 34, line 18-Page 35, line 19
including a second host task file for connection to a second host unit, the second host task file responsive to commands sent by the second host unit;	Fig. 6, block labeled "Task File" inside block 320 Fig. 9, block 413a Fig. 10a, block 523a Fig. 10b, block labeled "FIS Holding Reg" inside block 520	Page 17, lines 19-20 Page 34, line 32 – Page 35, line 1 Page 45, lines 5-6 Page 45, lines 11- 13
a third serial ATA port for connection to a device; and	Fig. 5 Block 230 Fig. 6 Block 330 Fig. 10a Block 530 Fig. 10b Block 530	Page 14, lines 4-14 Page 16, lines 7-11 Page 37, lines 17-18
an arbitration and control circuit, coupled to the first, second and third ports, for selecting either the first host unit or the second host unit to concurrently access the device, through the	Fig. 10a(ii) Fig. 10b(ii)	Page 16, lines 17-20 Page 16, line 25-Page 17,

switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state.	Fig. 11a(ii) Fig. 11b(i)	line 4 Page 17, line 18-Page 18, line 2 Page 18, lines 17-20 Page 24, lines 1-5 Page 24, lines 7-12 Page 26, lines 22-23 Page 37, line 25-Page 38, line 9 Page 38, lines 18-20 Page 38, lines 21-25 Page 38, lines 27-31 Page 39, lines 2-7
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Claim 33

Claim 33: A method of employing a switch coupled between a plurality of host units and a device for communicating therebetween, the method comprising:

- a) coupling a first serial advanced technology attachment (ATA) port to a first host unit;
- b) coupling a second serial ATA port to a second host unit;
- c) coupling a third serial ATA port to a device;
- d) receiving commands through a first host task file;
- e) receiving commands through a second host task file; and
- f) selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, through the first and second host task files, from either of the first or second host units, at any given time, including when the device is not in an idle state.

Subject Matter	Reference to Figs	Reference to Specs
A method of employing a switch coupled between a plurality of host units and a device for communicating therebetween, the method comprising:	Fig. 5 Block 200 Fig. 6 Block 300 Fig. 10a Block 500 Fig. 10b Block 500	Page 13, line 7-line 12 Page 15, lines 28-32 Page 35, lines 19-25
a) coupling a first serial advanced technology attachment (ATA) port to a first host unit;	Fig. 5 Block 210 Fig. 6 Blocks 310 Fig. 9 Block 410 Fig. 10a Block 510 Fig. 10b Block 510	Page 13, line 16-Page 14, line 14 Page 15, line 29-Page 16, line 3 Page 27, lines 1-5 Page 34, line 18-Page 35, line 19
b) coupling a second serial ATA port to a second host unit;	Fig. 5 Block 220 Fig. 6 Block 320 Fig. 9 Block 410 Fig. 10a Block 520 Fig. 10b Block 520 Fig. 11a Block 320 Fig. 11b Block 520	Page 13, line 26-Page 14, line 3 Page 15, line 30-Page 16, line 7 Page 27, lines 6-10 Page 34, line 18-Page 35, line 19
c) coupling a third serial ATA port to a device;	Fig. 5 Block 230 Fig. 6 Block 330 Fig. 10a Block 530 Fig. 10b Block 530	Page 14, lines 4-14 Page 16, lines 7-11 Page 37, lines 17-18
d) receiving commands through a first host task file;	Fig. 6, block labeled "Task File" inside block 310 Fig. 9, block 413a Fig. 10a, block 513a Fig. 10b, block labeled "FIS Holding Reg"	Page 17, lines 19-20 Page 34, line 32 – Page 35, line 1 Page 45, lines 5-6 Page 45, lines 11- 13

	inside block 510	
e) receiving commands through a second host task file; and	<p>Fig. 6, block labeled "Task File" inside block 320</p> <p>Fig. 9, block 413a</p> <p>Fig. 10a, block 523a</p> <p>Fig. 10b, block labeled "FIS Holding Reg" inside block 520</p>	<p>Page 17, lines 19-20</p> <p>Page 34, line 32 – Page 35, line 1</p> <p>Page 45, lines 5-6</p> <p>Page 45, lines 11- 13</p>
f) selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, through the first and second host task files, from either of the first or second host units, at any given time, including when the device is not in an idle state.	<p>Fig. 10a(ii)</p> <p>Fig. 10b(ii)</p> <p>Fig. 11a(ii)</p> <p>Fig. 11b(i)</p>	<p>Page 16, lines 17-20</p> <p>Page 16, line 25-Page 17, line 4</p> <p>Page 17, line 18-Page 18, line 2</p> <p>Page 18, lines 17-20</p> <p>Page 24, lines 1-5</p> <p>Page 24, lines 7-12</p> <p>Page 26, lines 22-23</p> <p>Page 37, line 25-Page 38, line 9</p> <p>Page 38, lines 18-20</p> <p>Page 38, lines 21-25</p> <p>Page 38, lines 27-31</p> <p>Page 39, lines 2-7</p>

VIII. LISTING OF CLAIMS

- 1 Claim 1: A switch coupled between a plurality of host units and a device for
2 communicating there between and comprising:
- 3 a) a first serial advanced technology attachment (ATA) port including a first host
4 task file, coupled to a first host unit, the first host task file responsive to
5 commands sent by the first host unit, to the device;
- 6 b) a second serial ATA port, coupled to a second host unit including a second host
7 task file, the second host task file responsive to commands sent by the second host
8 unit, to the device;
- 9 c) a third serial ATA port, coupled to a device, for causing access, by the first or
10 second host units, to the device; and
- 11 d) an arbitration and control circuit, coupled to the first, second and third ports, for
12 selecting one of the first host or second host units to concurrently access the device,
13 through the switch, by accepting commands, from either of the first or second host
14 units, at any given time, including when the device is not in an idle state.
- 1 Claim 4: A switch as recited in claim 1 wherein said third serial ATA port includes a device
2 task file.
- 1 Claim 5: A switch as recited in claim 1 wherein said first, second and third ports are level 4
2 ports.

1 Claim 6: A switch as recited in claim 1 wherein said device is a storage unit.

1 Claim 7: A switch as recited in claim 1 wherein said switch is employed in an enterprise
2 system.

1 Claim 9: A switch as recited in claim 1 wherein information, in the form of data, commands
2 or setup, is transferred from the device to the first or second host units through the
3 switch and the information is modified by the switch prior to being received by the
4 first or second host units such that modified information rather than the information is
5 received by the first or second host units.

1 Claim 10: A switch as recited in claim 9 wherein the information is referred to as 'identify
2 drive response'.

1 Claim 11: A switch as recited in claim 9 wherein the information is referred to as 'Tag'.

1 Claim 12: A switch as recited in claim 1 wherein information, in the form of data, commands
2 or setup, is transferred from the first or second host units to the device through the
3 switch and the information is modified by the switch prior to being received by the
4 device such that modified information rather than the information is received by the
5 device.

1 Claim 13: A switch as recited in claim 12 wherein the information is referred to as 'Tag'.

1 Claim 14: A switch as recited in claim 12 wherein the arbitration and control circuit include
2 a Tag/Sactive Mapping Circuit for mapping a host tag to a device tag and inverse
3 mapping for identifying a host.

1 Claim 15: A switch as recited in claim 1 wherein either the first or the second host sends a
2 legacy queue command queued by the device.

1 Claim 16: A switch as recited in claim 1 wherein either the first or the second host sends a
2 native queue command for execution thereof by the device.

1 Claim 17: A switch as recited in claim 16 wherein the Tag in the native queue command is
2 modified prior to sending to the Device to avoid using the same Tag for both hosts
3 and not to exceed the maximum allowed Tag value.

1 Claim 18: A switch as recited in claim 17 wherein the Tag received in a FIS from the Device
2 is modified to its original value prior to sending the same to the Host.

1 Claim 19: A switch as recited in claim 1 wherein the first, second and third ports are level 3
2 serial ATA ports and a Data FIS FIFO and an associated FIFO Control are coupled to
3 the first, second and third ports and are located externally thereto.

1 Claim 20: A switch comprising:

2 a) a first serial advanced technology attachment (ATA) port including a first host
3 task file for connection to a first host unit, the first host task file responsive to
4 commands sent by the first host unit;

5 b) a second serial ATA port including a second host task file for connection to a
6 second host unit, the second host task file responsive to commands sent by the
7 second host unit;

8 c) a third serial ATA port for connection to a device; and
9 an arbitration and control circuit, coupled to the first, second and third ports, for selecting
10 either the first host unit or the second host unit to concurrently access the device, through
11 the switch, by accepting commands, from either of the first or second host units, at any
12 given time, including when the device is not in an idle state.

1 Claim 21: A switch as recited in claim 20 wherein the switch is a serial ATA switch.

1 Claim 24: A switch as recited in claim 21 wherein said third serial ATA port includes a
2 device task file.

1 Claim 25: A switch as recited in claim 20 wherein said device is a storage unit.

1 Claim 26: A switch as recited in claim 20 wherein said switch is employed in an enterprise
2 system.

1 Claim 28: A switch as recited in claim 20 wherein information, in the form of data,
2 commands or setup, is transferred from the device to the first or second host units
3 through the switch and the information is modified by the switch prior to being
4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.

1 Claim 29: A switch as recited in claim 28 wherein the information is referred to as "TAG".

1 Claim 30: A switch as recited in claim 28 wherein the information is referred to as "identity
2 drive response".

1 Claim 31: A switch as recited in claim 20 wherein information, in the form of data,
2 commands or setup, is transferred from the first or second host units to the device
3 through the switch and the information is modified by the switch prior to being
4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 32: A switch as recited in claim 31 wherein the information is referred to as 'Tag'.

1 Claim 33: A method of employing a switch coupled between a plurality of host units

2 and a device for communicating therebetween, the method comprising:

3 a) coupling a first serial advanced technology attachment (ATA) port to a first
4 host unit;

5 b) coupling a second serial ATA port to a second host unit;

6 c) coupling a third serial ATA port to a device;

7 d) receiving commands through a first host task file;

8 e) receiving commands through a second host task file; and

9 f) selecting one of the first host or second host units to concurrently access the
10 device, through the switch, by accepting commands, through the first and second
11 host task files, from either of the first or second host units, at any given time,
12 including when the device is not in an idle state.

1 Claim 34: A method of employing a switch, as recited in claim 33, further including the

2 steps of transferring information, in the form of data, commands or setup, from the

3 device to the first or second host units through the switch and modifying the

4 information prior to the information being received by the first or second host units

5 such that modified information rather than the information is received by the first or

6 second host units.

1 Claim 35: A method of employing a switch, as recited in claim 34, wherein the information
2 is referred to as 'identify drive response'.

1 Claim 36: A method of employing a switch, as recited in claim 34, wherein the information
2 is referred to as 'Tag'.

1 Claim 37: A method of employing a switch, as recited in claim 34, further including the
2 steps of transferring information, in the form of data, commands or setup, from the
3 first or second host units to the device through the switch and modifying the
4 information by the switch prior to being received by the device such that modified
5 information rather than the information is received by the device.

1 Claim 38: A method of employing a switch, as recited in claim 37, wherein the information
2 is referred to as 'Tag'.

1 Claim 39: A method of employing a switch, as recited in claim 37, wherein mapping a host
2 tag to a device tag and inverse mapping for identifying a host.

1 Claim 40: A method of employing a switch, as recited in claim 34, further including the step
2 of sending a legacy queue command queued.

1 Claim 41: A method of employing a switch, as recited in claim 34, further including the step of
2 sending a native queue command for execution thereof by the device.

1 Claim 42: A method of employing a switch, as recited in claim 41, wherein modifying the Tag
2 in the native queue command prior to sending to the Device to avoid using the same Tag
3 for both hosts.

1 Claim 43: A method of employing a switch, as recited in claim 42, wherein modifying the Tag
2 received in a FIS from the Device prior to sending the same to the Host.

IV: APPENDIX

A. EVIDENCE APPENDIX: None

B. RELATED PROCEEDINGS APPENDIX: None